REMARKS

Reconsideration of this application, as amended, is respectfully requested.

RE: THE ALLOWABLE SUBJECT MATTER

The Examiner's allowance of claims 29 and 30 and the Examiner's indication of the allowability of the subject matter of claims 4 and 9-12 are respectfully acknowledged.

Allowed claims 29 and 30 have been amended only to make some minor clarifying amendments to put them in better form for issuance in a U.S. patent.

In addition, new independent claims 31 and 32 have been added to recite the subject matter of allowable claims 4 and 9 rewritten in independent form. And it is respectfully pointed out that new claim 31 avoids unnecessarily reciting that the shutter mechanisms are provided at the laser output terminals of the laser oscillators.

Still further, new independent claims 33 and 34 have been added to recite the subject matter of allowed independent claims 29 and 30 without the unnecessary recitation that the shutter mechanisms are provided at the laser output terminals of the laser oscillators.

No new matter has been added, and no new issues with respect to patentability have been raised. Accordingly, it is

respectfully requested that the amendments to claims 29 and 30 and the addition of claims 31-34 be approved and entered, and it is respectfully submitted that claims 29-34 are now all in condition for immediate allowance.

It is respectfully submitted, moreover, that the amendments to claims 29 and 30 are not related to patentability, and do not narrow the scope of these claims either literally or under the doctrine of equivalents.

RE: THE SPECIFICATION

The specification has been amended to correct two minor informalities of which the undersigned has become aware. No new matter has been added, and it is respectfully requested that the amendments to the specification be approved and entered.

RE: THE CLAIM AMENDMENTS

Claim 1 has been amended to clarify the features of the present invention whereby the light source section has a light source optical axis, and the illumination system has an illumination system optical axis. In addition, claim 1 has been amended to clarify the features of the present invention whereby when the illumination switching section selects the first optical path is selected, the light source optical axis coincides with

the illumination optical axis, and whereby when the second optical path is selected, the light source optical axis is offset with respect to the illumination optical axis. See, for example, the disclosure in the specification at page 10, line 11 to page 11, line 23.

In addition, claim 7 has been amended to clarify the features of the present invention whereby the illumination system which has an illumination optical axis, whereby the first light transmission section guides the first illumination light output from the first light source to a first optical path, which has an optical axis that coincides with the illumination optical axis and along which the first illumination light is guided through the illumination system and along an optical axis of the objective, and whereby the second light transmission section guides the second illumination light output from the second light source to a second optical path, which has an optical axis that is offset with respect to the illumination optical axis and along which the second illumination light is guided through the illumination system to realize the total reflection illumination on the target. See, for example, the disclosure in the specification at page 10, line 11 to page 11, line 23.

Still further, claims 1-30 have also been amended to make some minor grammatical improvements and to correct some minor

antecedent basis problems so as to put the claims in better form for issuance in a U.S. patent.

Finally, new claims 35 and 36 have been added to recite the subject matter of amended independent claims 1 and 7, with the clarification that the illumination system is telecentric, as supported by the disclosure in the specification at page 10, lines 8-10.

No new matter has been added, and it is respectfully requested that the amendments to claims 1-30 and the addition of new claims 35 and 36 be approved and entered.

It is respectfully requested, moreover, that withdrawn claims 17-28 be considered on the merits and allowed if and when their parent claims 1 and 7 are allowed.

CLAIM FEE

The application was originally filed with 30 claims of which 4 were independent, and the appropriate claim fee was paid for such claims. The application now contains 36 claims, of which 10 are independent. Accordingly, a claim fee in the amount of $1500 for the addition of 6 extra independent claims and 6 extra claims in total is attached hereto. In addition, authorization is hereby given to charge any additional fees which may be determined to be required to Account No. 06-1378.

RE: THE PRIOR ART REJECTION

Claims 1-3 and 5-8 were rejected under 35 USC 102 as being anticipated by US 2002/0097489 ("Kawano et al"); claims 13-15 were rejected under 35 USC 103 as being obvious in view of the combination of Kawano et al and USP 5,552,892 ("Nagayama"); and claim 16 was rejected under 35 USC 103 as being obvious in view of the combination of Kawano et al, Nagayama and USP 6,501,551 ("Tearney et al"). These rejections, however, are respectfully traversed with respect to the claims as amended hereinabove.

According to the present invention as recited in amended claim 1, an illumination switching apparatus is provided which comprises: an objective having a numerical aperture which enables total reflection illumination to be performed on a target; a light source section which has a light source optical axis and outputs illumination light; an illumination system which has an illumination system optical axis and guides the illumination light output from the light source section to the objective; and an illumination switching section which selects one of a first optical path and a second optical path. As recited in amended claim 1, when the first optical path is selected, the light source optical axis coincides with the illumination optical axis, and the illumination light output from the light source section is guided through the illumination system to travel along an optical axis of the objective to illuminate the target in a

standard observation mode. And as recited in amended claim 1, when the second optical path is selected, the light source optical axis is offset with respect to the illumination optical axis, and the illumination light output from the light source section is guided through the illumination system and the objective to illuminate the target in a total reflection observation mode.

According to the present invention as recited in amended independent claim 7, moreover, an illumination switching apparatus is provided which comprises: an objective having a numerical aperture which enables total reflection illumination to be performed on a target; a first light source which outputs first illumination light; at least one second light source which outputs second illumination light; and an illumination system which has an illumination optical axis and guides a received one of the first and second illumination light to the objective. As recited in amended independent claim 7, a first light transmission section guides the first illumination light output from the first light source to a first optical path, which has an optical axis that coincides with the illumination optical axis and along which the first illumination light is guided through the illumination system and along an optical axis of the objective, and a second light transmission section guides the second illumination light output from the second light source to

a second optical path, which has an optical axis that is offset with respect to the illumination optical axis and along which the second illumination light is guided through the illumination system to realize the total reflection illumination on the target. And as recited in amended independent claim 7, a first illumination switching section is selectively operable to permit the first illumination light output from the first light source to be guided to the first light transmission section, and to interrupt the first illumination light, and a second illumination switching section is selectively operable to permit the second illumination light output from the second light source to be guided to the second light transmission section, and to interrupt the second illumination light.

New independent claims 35 and 36, moreover, recite the subject matter of claims 1 and 7, respectively, and also recite that the illumination system is telecentric.

Thus, according to the present invention as recited in each of amended independent claims 1, 7 and new independent claims 35 and 36, light is guided along a first optical path along an optical axis that coincides with an optical axis of the illumination system and is guided along an optical axis of the objective lens, or light is guided along a second optical path along an optical axis that is offset with respect to the optical axis of the illumination system. Thus, the first optical path

may be used for standard illumination, while the second optical path may be used for total reflection illumination.

By contrast, Fig. 7 of Kawano et al shows a microscope optical system in which first and second optical paths from light sources 302 and 702 are made to converge at the beam splitter 706. According to Kawano et al, the shutter 704a may be opened to allow the microscope to function with standard observation, or closed for total internal reflection observation. In the optical system of Kawano et al, beam splitter 706 and slit member 324 may disadvantageously limit the light available for observation.

Nagayama, moreover, has merely been cited for the disclosure of guiding light through an optical fiber and reflecting light emitted from the fiber.

Still further, Tearney et al has merely been cited for the disclosure of a total reflection microprism.

Accordingly, it is respectfully submitted that even if the teachings of Nagayama and Tearney et al were combinable with Kawano et al in the manner suggested by the Examiner, the combination thereof still would not achieve the features of the present invention as recited in amended independent claims 1 and 7 and new independent claims 35 and 36 whereby first and second optical paths are provided such that light is guided along a first optical path along an optical axis that coincides with an optical axis of the illumination system and is guided along an

optical axis of the objective lens (e.g. for standard observation as recited in claims 1 and 35), or light is guided along a second optical path along an optical axis that is offset with respect to the optical axis of the illumination system to perform total reflection illumination.

In view of the foregoing, it is respectfully submitted that the present invention as recited in each of amended independent claims 1 and 7, new independent claims 35 and 36, and each of amended claims 2-6 and 8-30 respectively depending from claims 1 and 7, clearly patentably distinguishes over Kawano et al, Nagayama and Tearney et al, taken singly or in any combination under 35 USC 102 as well as under 35 USC 103.

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Entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned for prompt action.

Respectfully submitted,

/Douglas Holtz/

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